

THE DER WEEKLY

www.eren.doe.gov/der

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DER...The Power to Choose

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Industry News

According to the **California Independent System Operator (ISO)**, power plants overcharged residents by as much as \$6.2 billion since May 2000. California's ISO told the Federal Energy Regulatory Commission (FERC) that electricity wholesalers consistently took advantage of the market by charging prices far above generating costs or by withholding power. Reliant, Duke, Dynergy Inc., Williams Co., and Mirant, along with 16 other energy traders or middlemen, were named as abusing their power in the market. FERC recently ordered refunds of \$134.8 million for overcharges, which occurred mostly in January and February; however, this is only a small fraction of what the ISO wanted. The large power producers are disputing the charges, stating that they are legitimate, and have vowed to fight the ISO. [*The Washington Post*, March 23](#)

FPL Energy, LLC will construct a 110 MW wind plant near Montezuma, Kansas, which will be the first major wind facility in Kansas. **UtiliCorp United** will buy the entire output from the facility, selling 30 MW on the wholesale market and 80 MW to Kansas and Missouri customers. Construction begins this spring and should be completed by the end of this year.

www.utilicorp.com/news/data/newshome

International Business Machines (IBM) has conducted new studies on its eServer z900 mainframe computer that demonstrate the machine can be an energy saving alternative to server farms. According to IBM, the mainframe computer combines the task of hundreds of servers in one machine, cutting energy use by a factor of 20. The eServer z900 was first introduced in October 2000, and IBM began distributing it in December 2000.

www.ibm.com/press/prnews.nsf/homepage

Coleman Powermate, a subsidiary of Sunbeam Corporation, is creating a variety of backup generation systems for wireless,

broadband, and local-loop companies. The AC-powered, standalone gensets come in 8.5, 10, and 25 kW versions and feature patented permanent magnet alternator technology.

www.fixedwirelessbizz.com

H Power Corporation, a fuel cell development company, and **Osaka Gas Company, Ltd.**, a Japanese natural gas utility, plan to develop a new residential cogeneration fuel cell system for the Japanese residential market. They anticipate production of 1 kW and 500 watt systems, starting in 2003. www.hpower.com

DOE News

On March 19, **Dr. Robert Dixon**, Deputy Assistant Secretary for the Office of Energy Efficiency and Renewable Energy's Office of Power Technologies, spoke at the **U.S. Chamber of Commerce's National Energy Summit** on the role of renewable and distributed energy in meeting the nation's energy needs. Supporting the Secretary's speech, he commented on the importance of these technologies in improving the nation's energy infrastructure.

The **Office of Energy Efficiency and Renewable Energy's Wind Energy Program** has provided technical assistance and support to Kansas and Pennsylvania, (please see related wind energy story in Feature of the Week) in its efforts over the past 14 months to examine wind resources and development potential.

Sandia National Laboratory personnel from the **Energy Storage program** presented a workshop on **Power Electronics for Distributed Resources** on March 13 at DOE headquarters. Program managers from DER as well as PV and Transportation participated in the meeting. Power Electronics (PE) are an essential component of distributed resource devices. They interface the device with the grid, the load, and with other DER devices. Since PE represents about one third of the cost of a generating or storage system it is important to pay special attention in developing integrated systems that give optimal technical and economic performance. To reduce costs, it is important to align with existing large PE markets for leverage. The Sandia team presented a basic introduction, specific requirements, and options for future development. Sandia personnel also interviewed individual program managers about funded PE work or PE development by DOE contractors.

The 5th Annual Distributed Generation and On-Site Power Conference was held in New Orleans on March 21-23. Attendance at this broad-based conference continues to grow, with registration of about 250 this year. Gary Burch was the

(Continued on page 2)

opening-day luncheon speaker, and the topic of his presentation was "Distributed Energy Resources -- U.S. DOE Perspectives". Questions and discussions following his talk were very supportive of the multiple roles that DOE pursues in its DER office--e.g., conducting essential RD&D, addressing regulatory and institutional barriers, building partnerships, and sharing information.

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On March 20, 3M briefed representatives from the **DOE Offices of OPT and PBM** and a representative from **FERC** on their progress in developing an aluminum matrix composite (AMC) conductor. DOE sponsored 3M through Oak Ridge National Laboratory to support development of this conductor which has excellent potential for use in transmission line upgrades. AMC is a high-strength conductor that can carry as much as three times the current of conventional conductors of comparable size without reaching conductor sag limitations. Utilities are expressing high interest in AMC conductors for relieving transmission congestion on the grid, and DOE is considering follow-on work to assist in evaluating the conductor on several systems in partnership with utilities. It is likely no permitting will be required for replacing existing lines with this high capacity conductor.

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On March 19, Carlos Martinez demonstrated the **DOE Transmission Reliability** program-developed reliability adequacy software tools at the CEC. These tools were developed by the **Consortium for Electric Reliability Technology Solutions** (CERTS) and will be demonstrated by CERTS this summer at the California Independent System Operator (CA ISO) under separate funding provided by CEC's Public Interest Energy Research (PIER) Program. The first tool to be demonstrated includes visualization enhancements and will provide the system operator with the real time status of voltage levels on the grid, indicate where voltages are low, and what resources are available for correction.

National Policy News

Senators Jeff Bingaman (D-NM) and Tom Daschle (D-SD) introduced the **Comprehensive and Balanced Energy Policy Act of 2001** (S. 596) on March 22. Included in the bill are measures geared towards energy efficiency and incentives to install new power lines and to expedite installation of smaller power generation facilities, including fuel cells and renewables. thomas.loc.gov

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Senator Chuck Grassley (R-IA) introduced a bill, named the **BREEZE Act** (S. 530), on March 14, 2001, that would **extend for five years the wind energy Production Tax Credit (PTC)**. Congressman Mark Foley (R-FL) introduced a similar bill, H.R. 876, in the House on March 6; both bills are receiving bipartisan support. These bills would provide a 1.5 cent/kWh tax credit for electricity produced using wind resources. The current PTC legislation is set to expire on December 31, and was enacted as part of the Energy Policy Act of 1992.

[thomas.loc.gov](http://thomas.loc.gov), [www.awea.org](http://www.awea.org)

The vote on **national standards for connection of DER** power will be wrapped-up by the end of next week, and the votes will

## Feature of the Week

### **LARGEST WIND FARM IN EASTERN UNITED STATES TO OPEN NEAR MILL RUN, PENNSYLVANIA**

On March 14, 2001, representatives of a consortium of private companies, nonprofit organizations, and public agencies, including Community Energy, Inc., the Exelon Power Team, Atlantic Renewable Energy Corporation, Zilkha Renewable Energy, the TRF Sustainable Development Fund, and the Mid-Atlantic Renewable Energy Coalition (MAREC), announced that they will build a new 15 megawatt wind farm in Fayette County, Pennsylvania. The wind farm will be built in Springfield and Stewart Townships, near Mill Run, about 40 miles southeast of Pittsburgh. The Mill Run Wind Project will create enough clean energy to power about 5,700 homes. The state-of-the-art project is being built by Mill Run Windpower LLC, a joint venture between Atlantic Renewable Energy Corporation, a local wind energy developer, and Zilkha Renewable Energy, a Texas-based developer, builder, owner and operator of windpower plants worldwide. The Exelon Power Team, the whole-power marketing division of Exelon Generation, has agreed to buy the output of the wind farm for 20 years and will manage the wholesale delivery of the wind power to the power grid for resale. Community Energy, a green electricity marketing company in Wayne, Pennsylvania will market the green power to commercial and residential customers at lower prices than could be charged without the long term commitment. The project is supported by wind energy production incentive financing from the TRF Sustainable Development Fund, a fund devoted to renewable and clean energy projects administered by The Reinvestment Fund (TRF) in Philadelphia. The Mid-Atlantic Renewable Energy Coalition (MAREC), through the Pennsylvania Wind Campaign, is providing education to the public about renewable energy choices in Pennsylvania. The Philadelphia Regional Office (PRO) is an active liaison of MAREC. Groundbreaking for the Mill Run wind farm will take place later this spring.

[www.atlanti-renewable.com/pennsylvania.htm](http://www.atlanti-renewable.com/pennsylvania.htm)

## By the Numbers

- 230 approximate number of energy-related bills introduced in California's legislature in January and February 2001 (Jan/Feb 2001 *LEAP Letter*)
- 4 number of bills related to solving the energy situation that have passed in California's legislature this session (Jan/Feb 2001 *LEAP Letter*)
- 12 number of state policies that include either renewables portfolio standards, system benefits charges, or other renewable energy funds (or a combination) (Lawrence Berkeley National Laboratory)

be tallied by the **Institute of Electrical and Electronics Engineers** at an April meeting in New Orleans. The standards were drafted by a diverse group of stakeholders, including electric utilities, energy service companies, and state regulators. *Electric Power Alert*, March 21, 2001

## State and Local DER Action

**Georgia's** General Assembly has passed the **Georgia Cogeneration and Net Metering Act** (SB 93), which would allow consumers to purchase and operate their own cogeneration equipment, and require electric service providers to provide net metering services. Under the legislation, customers using a distributed generation facility are responsible for the expense of all equipment necessary to comply with safety, power quality, and interconnection requirements. [www2.state.ga.us/Legis](http://www2.state.ga.us/Legis)

The **San Francisco Board of Supervisors** is examining a \$50 to \$120 million bond measure to install solar panels on hundreds of city owned buildings, which may be placed on the November ballot (8 of the 11 members and the mayor support the measure). The project would meet almost half of the city government's power needs, generating between 17 and 40 MW during peak sunlight periods. [www.ci.sf.ca.us/bdsupvrs](http://www.ci.sf.ca.us/bdsupvrs)

On March 15, **Massachusetts** officials announced that the Massachusetts Renewable Energy Trust Fund will begin taking proposals for a **new renewable energy financing program**. The program will make available \$47 million in loans and grants, funds that have been collected through a distribution surcharge established in 1997 as part of the state's restructuring law. Funding includes *green power* grants for planning and design, or siting and feasibility studies, of new facilities; *green buildings* grants to help businesses and schools develop energy efficient buildings that use renewable energy sources in the design; and *premium power* grants to promote the development of clean, reliable electric power (particularly fuel cells) for specific business applications. [www.mtpc.org/massrenew/pr\\_roll\\_out\\_mar\\_01.htm](http://www.mtpc.org/massrenew/pr_roll_out_mar_01.htm)

**Maryland** Governor Glendening issued an **executive order** on March 13 to set a new "green" standard for the state. The order

creates a commission that will make recommendations and set criteria for constructing and maintaining energy efficient and environmentally responsible state facilities, setting goals for the purchase of clean power, and working on a comprehensive energy conservation plan. The order calls for at least 6% of energy consumption in state-owned facilities to be from wind, solar, biomass, and landfill gas generation.

[www.gov.state.md.us/gov/press/2001/mar/html/green.html](http://www.gov.state.md.us/gov/press/2001/mar/html/green.html)

The **California Air Resources Board** has certified **Capstone's** diesel fueled microturbine power system for commercial hybrid electric vehicles (HEVs). The microturbine is more than 75% cleaner than the lowest-emitting CARB certified heavy duty bus and truck diesel #2 engine, and smaller, lighter, and quieter. The **Los Angeles Department of Transportation** has received three 30-foot Capstone-Energized hybrid buses and will soon get an additional 32-foot bus. New Zealand, Japan, and China have utilized the Capstone-Energized buses as well.

[www.microturbine.com](http://www.microturbine.com), [www.ladottransit.com](http://www.ladottransit.com)

The **California State Senate Energy and Utilities Committee** passed a DER bill, SBX 9, with a 7-0 bipartisan vote. The legislation comes from the comprehensive DER legislation, SBX 35, which is still alive. SBX 9 was last amended on March 20, and includes provisions relating to **removing tariffs for new DER installations**. [www.assembly.ca.gov](http://www.assembly.ca.gov)

Several **New York state agencies** and the **ISO** have adopted policies that give companies financial incentives in the form of direct payment or lower rates to run **backup diesel generators** during the summer. The ISOs for New England, New Jersey, Pennsylvania, Maryland, and part of Virginia have taken similar steps to encourage the use of diesel generators.

*The New York Times*, March 20, 2001, NY Region

The West Coast is also looking for diesel generation to supplement power supply. The Okanogan County, **Washington**, Public Utility District will buy 16 1.6 MW diesel generators and lease another 6 1.1 MW generators to help power central Washington for the April to June period. The Springfield, **Oregon**, Utility Board plans to install 18 diesel generators that would provide 27 MW of power between April and October. *The Electricity Daily*, March 21, 2001

## The Weekly Factoid

Between 1993 and 1997, non-coincident summer peak load in the U.S. rose from roughly 581,000 MW to 638,000 MW — an increase of over 56,000 MW in four years. This is the equivalent of adding a new, 6-state New England to the nation's electrical demand every 18 months. Source: Regulatory Assistance Project's **Distributed Resources and Electric System Reliability**, [www.rapmaine.org](http://www.rapmaine.org), and EIA Table 35 Noncoincident Peak Load Actual and Projected .... 1993 through 1997

## CALENDAR OF EVENTS

| Date       | Event                                                                          | Location          | Other Information                                                                                      |
|------------|--------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------|
| MARCH 2001 |                                                                                |                   |                                                                                                        |
| 27-28      | Distributed Generation, the Restructured Market, and Your Energy Future        | Atlantic City, NJ | <a href="http://www.aeecenter.org">www.aeecenter.org</a> or (770) 925-9633                             |
| 28-30      | Infocast's 3rd Annual Conference on Electric Distribution Reliability Planning | Boston, MA        | <a href="http://www.infocastinc.com">www.infocastinc.com</a> or (818) 888-4444                         |
| 29-31      | Sharing the Load: Local Electric Energy Generation Realities                   | Cloud, MN         | <a href="http://www.regionalpartnerships.umn.edu">www.regionalpartnerships.umn.edu</a>                 |
| APRIL 2001 |                                                                                |                   |                                                                                                        |
| 2-3        | Business Communications Company's 1 <sup>st</sup> Fuel Cell Conference         | San Antonio, TX   | <a href="http://www.buscom.com">www.buscom.com</a>                                                     |
| 2-4        | Computational Skills for Electricity Markets                                   | Madison, WI       | <a href="http://epdweb.engr.wisc.edu/brochures/A575.html">epdweb.engr.wisc.edu/brochures/A575.html</a> |
| 21-25      | Forum 2001 — Solar Energy: The Power to Choose                                 | Washington, DC    | <a href="http://www.solarenergyforum.org">www.solarenergyforum.org</a>                                 |
| 23         | Wind Energy for Northwest Public Power – Issues and Policies                   | Portland, OR      | <a href="http://www.nwppa.org">www.nwppa.org</a>                                                       |
| 23-25      | Intertech's Fifth International Conference on Distributed Power                | Washington, D.C.  | Hugh Olmstead; <a href="mailto:olmstead@intertechusa.com">olmstead@intertechusa.com</a> ; 207-281-9606 |
| 24-25      | Utility Wind Interest Group Annual Meeting                                     | Portland, OR      | <a href="http://www.uwig.org">www.uwig.org</a>                                                         |
| 12         | IEEE Wenatchee Section and DOE: Fuel Cell Technology Forum                     | Wenatchee, WA     | Matthew Davis; <a href="mailto:matthew.davis@ieee.org">matthew.davis@ieee.org</a>                      |
| 30-May 5   | Affordable Comfort Conference: Home Performance Strategies                     | Milwaukee, WI     | <a href="http://www.affordablecomfort.org">www.affordablecomfort.org</a>                               |

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| Date         | Event                                                                                                                         | Location               | Other Information                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------|
| MAY 2001     |                                                                                                                               |                        |                                                                                                   |
| 1-3          | Industrial Energy Technology Conference                                                                                       | Houston, TX            | jim@esl.tamu.edu                                                                                  |
| 9-10         | Second International CHP Symposium                                                                                            | Amsterdam, Netherlands | <a href="http://www.2ndCHPsymposium.com">www.2ndCHPsymposium.com</a> ; Bob Dixon invited to speak |
| 9-10         | Energy Management Conference                                                                                                  | San Diego, CA          | Sponsored by FEMP; <a href="http://www.aeecenter.org">www.aeecenter.org</a>                       |
| 9-11         | GasMart Power 2001                                                                                                            | Tampa, FL              | <a href="http://www.gasmart.com">www.gasmart.com</a> or (800) 427-5747                            |
| 21-23        | Third Annual ICEPAG (International Colloquium and Exhibit on Environmentally Preferred Advanced Energy Generation) Conference | Newport Beach, CA      | <a href="http://www.parcon.uci.edu/colloquium">www.parcon.uci.edu/colloquium</a>                  |
| 24-25        | Together with the First United Nations and DOE (FE and EE) Conference on Hybrid Power Systems                                 | Newport Beach, CA      | <a href="http://www.parcon.uci.edu/colloquium">www.parcon.uci.edu/colloquium</a>                  |
| 30-31        | Fuel Cells Codes & Standards Summit V                                                                                         | College Park, MD       | ronald.fiskum@ee.doe.gov                                                                          |
| JUNE 2001    |                                                                                                                               |                        |                                                                                                   |
| 3-6          | FEMP Energy 2001 Conference                                                                                                   | Kansas City, MO        | <a href="http://www.energy2001.ee.doe.gov">www.energy2001.ee.doe.gov</a>                          |
| 3-7          | WindPower 2001 Conference                                                                                                     | Washington, DC         | <a href="http://www.awea.org">www.awea.org</a> ; laura_keelan@awea.org                            |
| 11           | Fuel Cell Transportation Technology Summit                                                                                    | San Jose, CA           | Sandra Gadzia; gadzia@sae.org                                                                     |
| 11-13        | International Symposium on Distributed Generation: Power System and Market Aspects                                            | Stockholm, Sweden      | <a href="http://www.ekc.kth.se/ees/workshop/DG.htm">www.ekc.kth.se/ees/workshop/DG.htm</a>        |
| 18-20        | APPA National Conference                                                                                                      | Washington, DC         | <a href="http://www.appanet.org">www.appanet.org</a>                                              |
| JULY 2001    |                                                                                                                               |                        |                                                                                                   |
| 10-12        | Gas Storage Workshop                                                                                                          | Kingston, Ontario      | David Quinn; quinn-d@rmc.ca                                                                       |
| 24-27        | ACEEE Summer Study                                                                                                            | Tarrytown, NY          | <a href="http://www.aceee.org">www.aceee.org</a> ; Rebecca Lunetta 302-292-3966                   |
| AUGUST 2001  |                                                                                                                               |                        |                                                                                                   |
| 29-Sep 3     | IEEC Integrated Energy Efficiency Congress                                                                                    | Cleveland, OH          | Sponsored in part by FEMP; <a href="http://www.aeecenter.org">www.aeecenter.org</a>               |
| OCTOBER 2001 |                                                                                                                               |                        |                                                                                                   |
| 24-26        | World Energy Engineering Congress                                                                                             | Atlanta, GA            | <a href="http://www.agcc.org">www.agcc.org</a>                                                    |